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The formulæ for reductions from 1855 or 1900 to any tabular date are (here æ, δ are the position for the fundamental epoch, æ′, δ′ those for the tabular date).

$$A = \text{æ} + z + \lambda$$
$$m \cos M = \cos \delta \cos A$$
$$m \sin M = \sin \delta$$
$$\cos \delta' \sin A' = \cos \delta \sin A$$
$$\cos \delta' \cos A' = m \cos (M + \theta)$$
$$\sin \delta' \quad = m \sin (M + \theta)$$
$$\text{æ}' = A' + z' - \lambda'.$$

Other formulæ giving the same results are frequently employed, but I find these on the whole the most convenient.

On the Orbit of p Eridani. By J. E. Gore.

In previous investigations on the orbit of this southern binary star it seems to have been assumed that Dunlop's measure in 1825 is probably erroneous, owing to the difficulty experienced in making it fit satisfactorily into an orbit with the other measures. Assuming, however, the approximate correctness of Dunlop's measure, and using some recent measures by Mr. Tebbutt (N.S.W.), and by Mr. Pollock at the Sydney Observatory, I have computed the following provisional elements:—

Elements of p Eridani.

$P = 302{\cdot}37$ years. $\quad ☊ = 135^\circ\ 0'$ (1870·0).

$T = 1823{\cdot}55.$ $\quad \lambda = 240^\circ\ 0'.$

$e = 0{\cdot}674.$ $\quad a = 6''{\cdot}96.$

$\gamma = 38^\circ\ 31'.$ $\quad \mu = -1^\circ{\cdot}19.$

The following is a comparison between the recorded measures and the positions computed from the above elements. The computed position-angles have been corrected for the effect of precession to 1870·0.

Epoch.	Observer.	θ_0	θ_c	$\theta_0-\theta_c$	ρ_0	ρ_c	$\rho_0-\rho_c$
		°	°	°	″	″	″
1825·96	Dunlop	343·1	348·6	−5·5	2·5 (est)	2·12	+0·38 ±
1835·00	Sir J. Herschel	302·3	303·9	−1·6	3·65	3·17	+0·48
1845·88	Jacob	276·0	276·7	−0·7	4·16	4·13	+0·03
1846·35	„	276·5	275·8	+0·7	4·32	4·18	+0·14
1849·82	„	270·0	269·5	+0·5	...	...	...
1850·80	„	268·7	267·9	+0·8	...	4·51	...
1851·79	„	266·4	266·3	+0·1	4·30	4·59	−0·29

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Epoch.	Observer.	θ_o	θ_c	$\theta_o-\theta_c$	ρ_o	ρ_c	$\rho_o-\rho_c$
		°	°	°	″	″	″
1852·76	Jacob	264·8	264·8	0·0	4·14	4·66	−0·52
1853·96	Powell	263·2	263·0	+0·2	...	4·73	...
1856·09	Jacob	261·1	259·9	+1·2	4·70	4·87	−0·17
1857·96	„	258·1	257·4	+0·7	4·49	5·01	−0·52
1861·03	Powell	253·4	253·6	−0·2	4·86	5·22	−0·36
1870·92	Russell	242·1	242·8	−0·7	5·46	5·85	−0·39
1877·03	Ellery	237·3	237·3	0·0	(5·0)	6·19	(−1·19)
1878·19	Russell	237·0	236·3	+0·7	6·138	6·26	−0·122
1879·93	Hargrave	237·3	234·9	+2·4	5·44	6·37	−0·93
1880·45	Russell	234·7	234·5	+0·2	6·295	6·40	−0·105
1880·58	Tebbutt	233·6	234·4	−0·8	6·42	6·41	+0·01
1882·18	„	233·0	233·1	−0·1	7·01	6·53	+0·48
1885·19	„	230·5	230·8	−0·3	7·10	6·75	+0·35
1886·901	Pollock	229·9	229·6	+0·3	6·63	6·82	−0·19
1886·909	„	230·8	229·6	+1·2	6·85	6·82	+0·03

Further Researches on Stellar Parallax by the Photographic Method. By Professor C. Pritchard, D.D., F.R.S.

In my last communication to the Society I gave the results of an investigation of the parallax of the two components of 61 *Cygni*, each being referred to four comparison stars independently. These eight independent results cohere in a remarkable manner, and together furnish a mean value of the parallax identical with that derived from the determinations of Bessel and subsequent astronomers.

Encouraged by the hopefulness of this new method, I entered on the discussion of the parallax of μ *Cassiopeiæ* and of the Pole Star. The necessity, however, of improving the mechanism of the De La Rue equatorial, now much worn by long and honourable service, greatly interrupted the continuity of the work. Aided by the continued generosity of the original donor this instrument was ultimately restored to very effective order by Mr. Simms, and since its restoration the research has continued without avoidable interruption.

On each of fifty-three nights, four photographic plates were taken of μ *Cassiopeiæ*. The exposures varied from five to ten minutes. About 3 per cent. of these plates were found to be injured and unsuitable for the inquiry. This number of defective plates is so small that, in the work to be presently described, I have adopted the method of taking two impressions on the same plate slightly moved in position, and in this way both labour and expense are economised. Details of all these

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